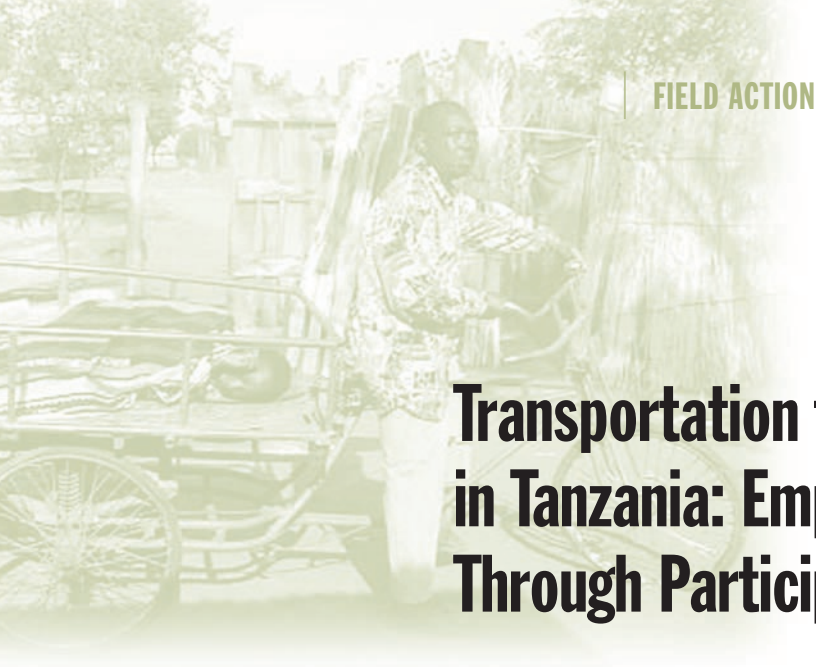

Transportation for Maternal Emergencies in Tanzania: Empowering Communities Through Participatory Problem Solving

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Inadequate health care and long delays in obtaining care during obstetric emergencies are major contributors to high maternal death rates in Tanzania. Formative research conducted in the Mwanza region identified several transportation-related reasons for delays in receiving assistance.

In 1996, the Cooperative for Assistance and Relief Everywhere (CARE) and the Centers for Disease Control and Prevention (CDC) began an effort to build community capacity for problem-solving through participatory development of community-based plans for emergency transportation in 50 villages. An April 2001 assessment showed that 19 villages had begun collecting funds for transportation systems; of 13 villages with systems available, 10 had used the system within the last 3 months. Increased support for village health workers and greater participation of women in decision making were also observed.

THE LIFETIME RISK OF maternal death is about 300 times greater in Tanzania than in northern Europe,[1,2] and long delays in obtaining care during obstetric emergencies contribute heavily to these high death rates. In the study area, the Mwanza region of Tanzania, poor roads, long distances, a lack of vehicles, and lack of family or community planning for getting to health care in an emergency were identified as major reasons for delays in obtaining care.

Formative research included a random-sample baseline survey of community members and 110 in-depth interviews with community leaders, health care providers, traditional healers, traditional birth attendants, current and former village health workers, teachers, and mothers and fathers from both higher- and lower-income groups. These data showed that no community had plans for providing emergency transportation for urgent obstetric care and that most people believed that transportation was the sole responsibility of the mother or her family.

These data guided development of a train-the-trainer curriculum on community empowerment. Ten participants, selected from community leaders, government health workers, elected officials, and CARE staff, became "master trainers." Participation in problem identification and decision making, especially by women, was a key theme in the master trainers' curriculum, and all meetings were facilitated by the trainers (see Ahluwalia et al.[3] for full details). Master trainers conducted meetings with leaders from 50 communities, who then arranged community-wide meetings to discuss development of emergency transportation plans.

Community assessment tools were developed to monitor progress on transportation plans and on the level of community participation in decision making (who participated and to what extent). Periodically, each village is rated on 3 factors: (1) emergency transportation plans (progress in, development of, and use of); (2) supportive supervision (quality of work by village health workers—for example, the number of referrals of mothers with danger signs for difficult pregnancies, the number of material registry cards completed, and the quality of maternal counseling); and (3) ownership of health problems by the community (level of participation by all sectors of the community in decision making and level of responsibility taken by the community in addressing health and other problems).

Transportation choices varied according to the geographic location and economic situation of the area. Many plans changed over time, some because of changes in village leadership, some because the initial choices were not possible or too expensive, and some because more attractive alternatives became available. One community had planned on using a canoe, but heavy growth of elephant grass and water lilies made passage impossible. Another village tested a model tricycle but found

KEY FINDINGS

- Poor rural communities can organize through a participatory process to develop effective solutions to health and other problems.
- When communities use a participatory approach to decision making, especially with regard to community health issues, women become more involved and empowered.
- These empowerment processes can take several years and may require support and outside technical assistance before they become institutionalized.
- Appropriate models and solutions for the local environment and within the resources of the community will facilitate early adoption and reduce costly mistakes.

it too difficult to use and decided on an oxcart. Other plans proved adaptable. Village elders from one community were returning with materials to build a new canoe when their boat capsized and they drowned. The village decided to try again. More funds were collected and the village now has a functioning boat system.

At the time of the last assessment, in April 2001, choices for transportation were as follows: motorboat or canoe (10 communities), a bicycle with a trailer (2), a modified tricycle with platform (22), an emergency fund (5), a tractor with a trailer (4), a reconditioned vehicle (5), and an oxcart (2). Twenty-eight communities had written action plans, 19 had collected some funds or materials to implement the plan, and 13 had plans that were functional (could be used if needed). Ten communities have used their transportation plans in the last 3 months.

DISCUSSION AND EVALUATION

Emergency transportation and support of village health workers can serve as organizing themes that foster community participation in decision making. These processes require time to develop, and assistance may be needed for several more years before they become normative. Although the Tanzanian Ministry of Health was a partner in these efforts, lack of government resources has meant that CARE staff provided the vast majority of technical assistance. When CARE leaves the area, some of these skills will remain with select Ministry of Health and affiliated trainers; however, provision of this assistance will still be dependent on outside sources.

At baseline, none of the 50 villages had any community plan for providing transportation during maternal health emergencies. Now, 19 have made some progress on their plans and 13 have transportation systems available for use when needed. Initially, the communities did not provide social, financial, or technical support for village health workers, and male officials dominated most community meetings. Currently, most villages provide social, administrative, and technical support for village health workers and 6 provide occasional financial support. Women are participating more often in community meetings, contributing to decisions and occasionally leading discussions. Community members report that both the community and the individual are responsible, at least in part, for addressing health problems, and in at least 2 villages decisions are made through a consensus process.

The state of these transportation plans is dynamic. The tricycle was the most popular transportation choice, but a suitable model was not available initially, and a locally built model proved to be too fragile for the district's rough paths and roadways. Several villages tired of waiting for a sturdier model and chose to use their funds for other transportation options or other purposes. A new heavy-duty tricycle is now available; 2 villages have purchased such tricycles, and 3 more are on order. There is a clear need for appropriate and available technology. If appropriate options are not available when the community is ready to act, some of the enthusiasm and commitment engendered by the community meetings and discussions may be lost.

Although the initial objective of this project was to promote the development of emergency transportation options, there is evidence of progress toward a larger and longer-term goal: community ownership of community health problems. Some communities may be generalizing these participatory decision-making skills to other areas. This community empowerment project has required significant technical and financial assistance over more than 4 years. When the CARE staff and support are gone, some mobilization and technical skills will remain with the master trainers and village health workers. The sustainability of these skills and practices will depend on the extent to which they are incorporated into the norms of community life. ■

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Contributors

T. Schmid and I. Ahluwalia had primary responsibility for developing and presenting the Master Trainer Curriculum, facilitating the qualitative assessments, and writing the report. They worked with M. Kouletio and O. Kanenda on developing the community assessment and evaluation tools and on the data analysis. M. Kouletio and O. Kanenda also provided on-site supervision of data collection, community mobilization, and development of transportation models and contributed to the writing of the report.

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